

CLAIMS

1. An ophthalmic transdermal patch for treating diseases of the posterior segment of the eye comprising a drug-containing layer uniformly containing in a base matrix a percutaneous absorption enhancer and a drug to be delivered to at least a part of the posterior segment of the eye including the lens, the vitreous body, the choroid and the retina.

2. The ophthalmic transdermal patch of claim 1 wherein the drug is an anti-cataract agent, an anti-inflammatory agent, an anti-viral agent, an immunosuppressant, a calcium channel antagonist, a glutamate receptor antagonist or a cysteine protease inhibitor.

3. The transdermal patch of claim 1 or 2 wherein the percutaneous absorption enhancer is polyoxyethylene oleyl ether and/or isopropyl myristate.

4. The ophthalmic transdermal patch of one of claims 1 to 3 wherein the content of polyoxyethylene oleyl ether in the drug-containing layer is 5-30 W/W%.

5. The ophthalmic transdermal patch of one of claims 1 to 4 wherein the content of isopropyl myristate in the drug-containing layer is 5-30 W/W%.

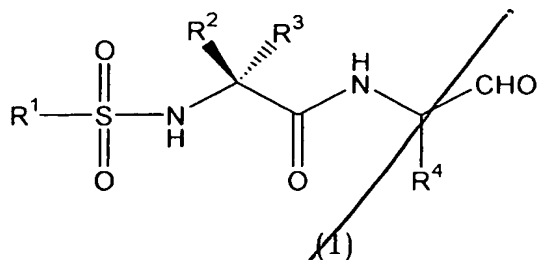
6. The ophthalmic transdermal patch of one of claims 1 to 5 wherein the base matrix comprises acrylic adhesive, silicone elastomer or styrene-isoprene-styrene copolymer.

7. The ophthalmic transdermal patch of one of claims 1 to 6 wherein the ratio of the content by weight concentration (W/W%) of polyoxyethylene oleyl ether to isopropyl myristate is in the range of 1:0.1-1:5 in the drug-containing layer.

8. The ophthalmic transdermal patch of one of claims 1 to 7 wherein the drug is a steroidal drug.

9. The ophthalmic transdermal patch of one of claims 1 to 7 wherein the drug is a compound of the formula (1)

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or a pharmaceutically acceptable salt thereof, wherein R¹ denotes C1-C4 alkyl, or C6-C10 aryl which may be substituted, R² and R³ are the same or different from each other and denote hydrogen or C1-C4 alkyl, or are combined to form a C3-C7 ring, and R⁴ denotes aryl, cycloalkyl, or a lower alkyl which may be substituted with an aromatic heterocyclic ring.

10. The ophthalmic transdermal patch of claim 9 wherein the drug is N-(4-fluorophenylsulfonyl)-L-valyl-L-leucinal or a pharmaceutically acceptable salt thereof.

11. A method for treating a disease of at least a part of the posterior segment of the eye including the lens, the vitreous body, the choroid and the retina in an animal including a human, wherein the method comprises applying to the animal a transdermal patch comprising a drug-containing layer uniformly containing in a base matrix an effective amount of a drug to be delivered to the part and a percutaneous absorption enhancer.

12. The method of claim 11 wherein the drug is an anti-cataract agent, an anti-inflammatory agent, an anti-viral agent, an immunosuppressant, a calcium channel antagonist, a glutamate receptor antagonist or a cysteine protease inhibitor.

13. The method of claim 11 wherein the percutaneous absorption enhancer is polyoxyethylene oleyl ether and/or isopropyl myristate.

14. The method of claim 13 wherein the content of polyoxyethylene oleyl ether in the drug-containing layer is 5-30 W/W%.

15. The method of claim 13 wherein the content of isopropyl myristate in the drug-containing layer is 5-30 W/W%.

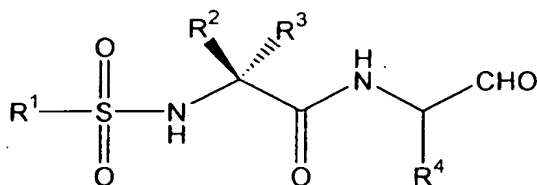
16. The method of claim 11 wherein the base matrix comprises acrylic adhesive, silicone elastomer or styrene-isoprene-styrene copolymer.

17. The method of claim 13 wherein the ratio of the content by

weight concentration (W/W%) of polyoxyethylene oleyl ether to isopropyl myristate is in the range of 1:0.1-1:5 in the drug-containing layer.

18. The method of claim 11 wherein the drug is a steroidal drug.

19. The method of claim 11 wherein the drug is a compound of the formula (1)



(1)

or a pharmaceutically acceptable salt thereof, wherein R¹ denotes C1-C4 alkyl, or C6-C10 aryl which may be substituted, R² and R³ are the same or different from each other and denote hydrogen or C1-C4 alkyl, or are combined to form a C3-C7 ring, and R⁴ denotes aryl, cycloalkyl, or a lower alkyl which may be substituted with an aromatic heterocyclic ring.

20. The method of claim 19 wherein the drug is N-(4-fluorophenyl-sulfonyl)-L-valyl-L-leucinal or a pharmaceutically acceptable salt thereof.